

### Abstract

The network monitoring system comprises a network router with built-in monitoring data gathering. The network router includes channels through which data pass in packets. Each of the packets includes a packet header. The network router additionally includes a header copier and a packet generator. The header copier generates a header copy from the packet header of at least some of the packets. The packet generator receives the header copies and forms monitoring data packets from them. Each monitoring data packet additionally represents temporal data relating to the header copies included in it. A method of obtaining performance data relating to a data transmission network that includes a node passes data through the node in packets. Each of the packets includes a packet header. At least some of the packet headers are copied to obtain respective header copies as monitoring data from which monitoring data packets are formed. The monitoring data packets additionally represent temporal data relating to the header copies included in them. The monitoring data packets are transmitted and the performance data are generated from the monitoring data contained in the monitoring data packets.